

**Data Technician**

|  |
| --- |
|  |

|  |
| --- |
| Name: |
| Course Date: |
|  |

**Table of contents**

[Day 1: Task 1 2](#_Toc712793425)

[Day 1: Task 2 2](#_Toc122426496)

[Day 2: Task 1 3](#_Toc883045340)

[Day 2: Task 2 3](#_Toc1787656936)

[Day 3: Task 1 4](#_Toc621661729)

[Day 3: Task 2 5](#_Toc1930110380)

[Day 4: Task 1 6](#_Toc397995405)

[Day 4: Task 2 7](#_Toc511288934)

[Course Notes 7](#_Toc1126090548)

[Additional Information 8](#_Toc346271685)

# Day 1: Task 1

Please research the different versions of Tableau, compare and contrast them below and explain the limited functionality on ‘Tableau Public’.

|  |  |
| --- | --- |
| Different Tableau versions | **Tableau Desktop (part of the Creator seat)** is a full authoring tool (connects to many live databases, builds/prepares data, full features).   * Full authoring environment for creating dashboards and advanced analytics. * Supports a wide variety of data connectors: databases, cloud warehouses, live connections, and extracts. * Workbooks can be saved locally or published to Tableau Server/Cloud. * When paired with Server/Cloud, it supports live data and scheduled extract refreshes. * Typical users: data analysts, BI developers.   **Tableau Prep / Prep Builder** = extract/clean/shape data (usually part of Creator).   * Tool for cleaning, reshaping, and combining datasets. * Connects to files and databases (via desktop connectors). * Flows can be published to a server/cloud for collaboration and scheduling. * Used by data engineers or analysts preparing data pipelines.   **Tableau Server (self-hosted)** = enterprise collaboration, scheduled refreshes, governance, and private sharing on-prem.   * Enterprise platform for private, secure collaboration. * Can connect to all supported databases and sources (with drivers installed on the server). * Keeps dashboards internal to the organisation. * Supports scheduled refreshes, extracts, and governance features. * Requires IT/admin effort for setup, upgrades, and infrastructure management.   **Tableau Cloud (formerly Online)** is a hosted version of Server (same collaboration & scheduling features, no on-prem infra).   * Cloud-hosted version of Tableau Server — no infrastructure to maintain. * Supports most connectors, though private databases need the Tableau Bridge agent. * Provides private sites, secure sharing, and full scheduling capabilities. * Managed by Tableau, with automatic upgrades. * Typically chosen by organisations that want enterprise BI without on-prem infrastructure.   **Tableau Public** is a free cloud host for publishing visualisations — publicly accessible only, with limited connectors, file-size/extract limits, and limited refresh capability.   * Free, cloud-based platform for publishing and sharing visualisations. * Primary use: learning, personal portfolio, public data storytelling. * Supports uploading files (Excel, CSV, spatial files), Google Sheets, and some web connectors. * **No private option—everything** published is publicly visible on the web. * **No live database connections** (except limited Google Sheets refresh). * File upload size limit: 1 GB; suggested row limit for analysis: ~15 million rows. * No governance, security controls, or enterprise scheduling features. * Best for hobbyists, bloggers, students, and public-facing projects.  **Tableau Reader**  * Free desktop tool to open and view packaged Tableau workbooks (.twbx). * Offline, local viewing only. * No sharing, collaboration, or live refresh capabilities.  **Tableau Mobile**  * App for consuming dashboards published on server/cloud. * Interactive exploration optimised for tablets/phones. * Relies on data and refresh schedules already configured in Server/Cloud.   **Explorer / Viewer seats are** lower-cost roles for people who don’t need full authoring; Creator = Desktop + Prep + full capabilities. **Why Tableau Public is limited**  1. **Public visibility** – No option for private storage; everything is accessible to anyone. 2. **Restricted connectors** – Limited to file uploads, Google Sheets, and certain web connectors. No enterprise database connections. 3. **Extract-only model** – No live connections (except Google Sheets auto-refresh). Most data are static once uploaded. 4. **Size limits** – Max 1 GB upload; not suited for very large datasets. 5. **No enterprise governance** – Lacks user security, row-level permissions, audit logs, or admin controls. 6. **Feature gaps** – Missing many advanced data prep and enterprise features found in Desktop + Server/Cloud. |

# Day 1: Task 2

Using the *EMSI\_JobChange\_UK* dataset, create your own dashboard, I want to see a bar chart showing percentage change and a UK based map showing the key city locations impacted.

|  |  |
| --- | --- |
| Paste your print screen here | * Bar chart      * Uk Based Map showing the impact on key city location     Dashboard |

# Day 2: Task 1

Using the Spotify data set, conduct an analysis to find trends and key information that could be used by an organisation for future projects.

There is no set scope for the analysis, simply to find trends and document them below:

|  |  |
| --- | --- |
| Paste your print screens here | 1. Genre Liveness     2. Major vs Minor    Dashboard: |

|  |  |
| --- | --- |
| What did you find? | Insights that can be drawn:  **Key Trends from the Dashboard** **1. Genre Popularity**  * Pop is the most dominant genre by a wide margin, followed by rap, rock, and hip-hop. * Indie and children’s music also show strong popularity, suggesting broad audience appeal beyond mainstream genres. * Genres like a cappella appear lower in popularity, representing niche but still significant markets.   Implication: Organisations planning future music projects (festivals, playlists, collaborations) should prioritise pop, rap, rock, and hip-hop for maximum reach but could also leverage niche genres (like jazz or folk) for targeted, loyal audiences. **2. Artist Analysis**  * Drake is the clear leader in popularity, with a substantial gap over the next artists (Chris Brown, Nobuo Uematsu, and Future).   Implication:   * Collaborations with globally recognised artists (e.g., Drake, Eminem) can guarantee visibility. * At the same time, organisations could explore crossover projects (e.g., mixing orchestral/classical with modern genres) to appeal to diverse audiences. * The presence of soundtrack composer's points to opportunities in gaming, film, and streaming media partnerships.  **3. Length & Popularity (Avg. Duration vs Popularity)**  * Most popular tracks cluster around 3.5 to 4.5 minutes, aligning with the traditional radio/streaming-friendly song length. * Shorter songs (< 2.5 mins) show low popularity, while longer songs (> 5 mins) are rare and not strongly popular. * The trend line shows a slight positive correlation: longer songs (within the 3–5 min range) may perform slightly better.   Implication:   * Future projects should target the 3–4.5-minute length sweet spot for higher listener engagement. * Very short songs may struggle with popularity unless used for niche purposes (e.g., TikTok trends, intros, interludes).  **Overall Insights for Organisations**  1. **Mainstream vs Niche Strategy**    1. Focus on pop, rap, rock, and hip-hop for mass engagement.    2. Explore niche genres (a cappella, jazz, folk, and country) for smaller but loyal communities. 2. **Artist Partnerships**    1. Partner with mainstream artists for global reach.    2. Collaborate with classical and soundtrack composers to reach cross-media audiences (film, TV, and games). 3. **Content Creation Strategy**    1. Aim for tracks in the 3–4.5 min duration for streaming success.    2. Consider blending genres (e.g., orchestral + pop/rap) to create innovative projects. 4. **Cross-Industry Potential**    1. The high ranking of composers like Zimmer, Shore, and Uematsu suggests growth opportunities in film, TV, and gaming music markets. |
|  |  |

# Day 2: Task 2

Using the Health, conduct an analysis to find trends and key information that could be used by an organisation for future support.

There is no set scope for the analysis, simply to find trends and document them below.

* Data can be lifesaving and is being used more within the NHS, reflect on how this data could support decision making for the NHS.

|  |  |
| --- | --- |
| Paste your print screens here |  |
| What did you find and any reflections on how the NHS could use this? | **Key Trends from the Dashboard****1. Life Expectancy (Global Map)**  * Life expectancy varies widely across continents. * Countries in Europe and parts of Asia show higher life expectancy (darker blue shades). * ManyAfrican nations show lower life expectancy (lighter shades). * This suggests strong links between life expectancy and socioeconomic development, healthcare access, and nutrition.  **2. Health Risk Factors vs Outcomes (BMI vs Life Expectancy)**  * The scatterplot suggests a positive correlation: countries with higher average BMI also report higher life expectancy. * However, extremely high BMI values may pose long-term risks (obesity-related diseases). * This may indicate that in wealthier nations, better healthcare and nutrition extend life expectancy despite rising BMI.  **3. Cancer Comparison (by Continent)**  * Asia and Europe report higher values of cancer cases (liver, lung, stomach). * Africa and Oceania show comparatively lower recorded values, though this could reflect underreporting or limited screening infrastructure rather than truly lower prevalence. * Lung cancer appears consistently high across multiple continents, linking strongly to smoking prevalence and air pollution. * Stomach and liver cancers are also notable in Asia, likely linked to dietary factors, hepatitis prevalence, and genetic predispositions.  **How This Data Can Support NHS Decision-Making**  1. **Targeted Public Health Campaigns**    1. If UK life expectancy trends align with Europe, the NHS can focus campaigns on obesity reduction and healthy lifestyle education to counter the risks of rising BMI. 2. **Cancer Screening and Prevention**    1. High lung cancer cases highlight the need for anti-smoking measures, early screening, and air quality improvements.    2. Stomach and liver cancer data suggest opportunities for dietary education and vaccination (hepatitis B) initiatives. 3. **Resource Allocation**    1. Understanding disease burden by region helps the NHS allocate resources effectively (e.g., funding cancer treatment units and community health interventions). 4. **Predictive Planning**    1. Tracking population growth alongside life expectancy helps forecast future healthcare demand (e.g., an aging population needing long-term care). 5. **International Collaboration**    1. Global comparisons let the NHS benchmark against other countries, identifying best practices and potential global health partnerships.   This kind of health data isn’t just descriptive —it’s predictive and strategic. By analyzing trends (like obesity rising alongside life expectancy or cancer prevalence varying by continent), the NHS can design preventive policies, screening programs and targeted interventions. Ultimately, it helps shift from a reactive model (treating illness) to a proactive model (preventing illness and extending healthy life years). |

# Day 3: Task 1

Please complete Lab 1 ‘Get Data in Power Bi Desktop’. Once complete, paste a print screen below and in the collaboration board.

“Teaching is the best way to learn, so please listen out for support requests from the class and we’ll work through the challenges together”

|  |  |
| --- | --- |
| Paste your completed lab here |  |

# Day 3: Task 2

Please complete Lab 2 ‘Load Transformed Data in Power BI Desktop’. Once complete, paste a print screen below and in the collaboration board.

“Teaching is the best way to learn, so please listen out for support requests from the class and we’ll work through the challenges together”

|  |  |
| --- | --- |
| Paste your completed lab here |  |

# Day 4: Task 1

Please complete Lab 8 ‘Design a Report in Power BI Desktop’. Once complete, paste a print screen below and in the collaboration board.

“Teaching is the best way to learn, so please listen out for support requests from the class and we’ll work through the challenges together”

|  |  |
| --- | --- |
| Paste your completed lab here |  |

# Day 4: Task 2

Please complete Lab 12 ‘Create a Power BI Dashboard’. Once complete, paste a print screen below and in the collaboration board.

“Teaching is the best way to learn, so please listen out for support requests from the class and we’ll work through the challenges together”

|  |  |
| --- | --- |
| Paste your completed lab here |  |

|  |
| --- |
| **Course Notes** |

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class.

We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

**END OF WORKBOOK**

**Please check through your work thoroughly before submitting and update the table of contents if required.**

**Please send your completed work booklet to your trainer.**

|  |
| --- |
| **Information** |